

REMARKS

Claim 13 is amended. Claims 1-14, as amended, remain in the application. No new matter is added by the amendments to the claims.

The Rejections:

In the Office Action dated February 22, 2007, the Examiner rejected Claim 13 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner stated that Claim 13 rebites the limitation "said reference current value" in line 2 and there is insufficient antecedent basis for this limitation in the claim.

The Examiner rejected Claims 1-3 and 8 under 35 U.S.C. 102(b) as being anticipated by Hakala et al. U.S. Patent No. 6,367,587.

Referring to Claim 1, the Examiner stated that: Hakala discloses an elevator drive machine including multiple electric motors and a traction sheave as claim (see all figures and respective portions of the specification); Hakala further depicts from figure 2, a pair of space apart end plates (frames 3, 44) each retaining an associated bearing (22); a pair of electric motors having rotor (17, 18) and stator (19, 20); a shaft (39) see dotted line in figure 3, having opposed free ends, and being rotatably supported by bearings (22), each free end of the shaft being drivingly connected to an associated one of the motors; furthermore, Hakala discloses a traction sheave (2) supported by the shaft for rotation by the motors (see figure 2, 5 and 6).

As to Claim 2, the Examiner stated that Hakala depicts in figures 2 and 3, rotors (17, 18) arranged on the associated free end of the shaft and a stator (19, 20) mounted on an associated bearing end plate by a cage housing.

Referring to Claim 3, the Examiner stated that Hakala et al. discloses at least one brake disk not label see figure 4 attached to the traction sheave (2) and at least one disk brake (9) acting on at least one brake disk (see Col. 4, lines 20-22).

As to Claim 8, the Examiner stated that Hakala discloses a secondary sheave (47) attached to the machine frame by a support (46) (see figure 5).

The Examiner rejected Claims 4-7 and 9-14 under 35 U.S.C. 103(a) as being unpatentable over Hakala in view of Albrich et al. U.S. Patent No. 6,429,554.

Referring to Claims 4 and 9, the Examiner stated that Hakala addresses all the similar limitations of Claim 1 above, but does not explicitly describes having a drive unit with a plurality of frequency converters connected to the motors and operating in a master/slave mode. The Examiner further stated, however, Albrich discloses a system in which an electric motor is used cableway drives or lift systems in which a plurality of frequency converters are connected to the motor and operating in a master/slave (see Claim 1) and, additionally, Albrich discloses in figure 1, frequency converters (5a-5f). According to the Examiner, since Hakala and Albrich are in the same field of endeavor regarding lift systems, the purpose disclosed by Albrich would have been recognized in the pertinent art of Hakala, and it would have been obvious to one of ordinary skill in the art at the time of the invention to have a plurality of frequency converters connected to each motors and operating in a master/slave mode as taught by Albrich within the teaching of Hakala for the purpose/advantages that in the event of failure of one or more stator segments in the motor (i.e. winding short circuit or failures in the associated frequency converter) the electric motor can continue to run generally without additional measures, or in the worst case scenario, the other motor will continue to operate.

As to Claims 5, 10 and 13, the Examiner stated that Albrich depicts from figure 1, a control portion (6a) of the master frequency converter (5a) that obviously specifies a total current distributed among the frequency converters (5b-5f), wherein each of the slave frequency converters (5b-5f) obviously include a current regulator for regulating a current based upon a reference current value and an actual current value detected by the current detection device (9a).

Referring to Claims 6 and 11, the Examiner stated that Albrich depicts from figure 1, a bus system connecting frequency converters (5a-5f) for communicating at least one of reference-current, synchronization signals and identification signals from the main control device (11).

As to Claim 12, the Examiner stated that Albrich discloses resolver line (15), representing an actual rotational speed of a motor shaft by a tachogenerator (not shown) coupled to the shaft and a the control portion (6a) generating a signal representing a reference rotational speed (see figure 1 and Col. 3, lines 31-41).

As to Claim 14, the Examiner stated that Hakala discloses a secondary sheave (47) attached to the machine frame by a support (46) (see figure 5).

The Response:

Applicants amended Claim 13 to depend from Claim 10 to overcome the rejection under 35 U.S.C. 112, second paragraph, by providing antecedent basis for the limitation "said reference current value" in line 2.

The Examiner stated that Hakala depicts (Fig. 2) a pair of spaced apart end plates (frames 3, 44) each retaining an associated bearing (22). That is not a correct description of the Hakala drive machine. Hakala has a frame block 3 that is preferably made by casting and is stiffened by a plurality of fins 44. (Col. 4, Lines 7-18) The fins 44 are not an end plate and are not spaced apart from the single frame block 3.

The Examiner stated that Hakala has a shaft 39 (see dotted line in Fig. 3), having opposed free ends, and being rotatably supported by bearings 22, each free end of the shaft being drivingly connected to an associated one of the motors. There is no reference numeral 39 shown in Fig. 3. The reference numeral 39 shown in Fig. 5 designates the elevator shaft wall. The Hakala drive machine 1 does not include a shaft rotatably supported by bearings. The broken lines in Fig. 3 are centerlines with the vertical line designating the plane at which the rotors 17, 18 are attached together and the horizontal line designating the axis of rotation of the rotors 17, 18.

Thus, the Hakala drive machine does not include or suggest the following elements of Applicants' Claim 1:

- a pair of spaced apart bearing end-plates mounted on a machine frame, each of said bearing end-plates retaining an associated bearing (Hakala has the single frame block 3);
- a pair of electric motors, each said motor supported by an associated one of said bearing end-plates (Hakala's motors are supported by the single frame block 3);
- a shaft having opposed free ends, said shaft being rotatably supported by said bearings, each of said free ends of said shaft being drivingly connected to an associated one of said motors (Hakala has no shaft); and

a traction sheave supported by said shaft for rotation by said motors (the Hakala traction sheave 2 is supported by the rotors 17, 18).

The above comments apply to independent Claim 9.

The Examiner stated that the prior art made of record and not specifically relied upon is considered pertinent to Applicant's disclosure to further show the state of the art. The Examiner cited: Kahkipuro (4804067); Ando et al. (5019960); Iwata (5012899); Hakala (5229558); Hakala et al. (5734135); Suur-Askola et al. (5894910); Surr-Askola et al. (5896948); Hakala et al. (6220395); Hakala et al. (6234275); Cholinski (6371248); Ando et al. (6471011); Smith et al. (2005/0224296 A1); and Koura et al. (6467583). Applicants reviewed these references and found them to be no more pertinent than the prior art relied upon by the Examiner in the rejections.

In view of the amendments to the claims and the above arguments, Applicants believe that the claims of record now define patentable subject matter over the art of record. Accordingly, an early Notice of Allowance is respectfully requested.